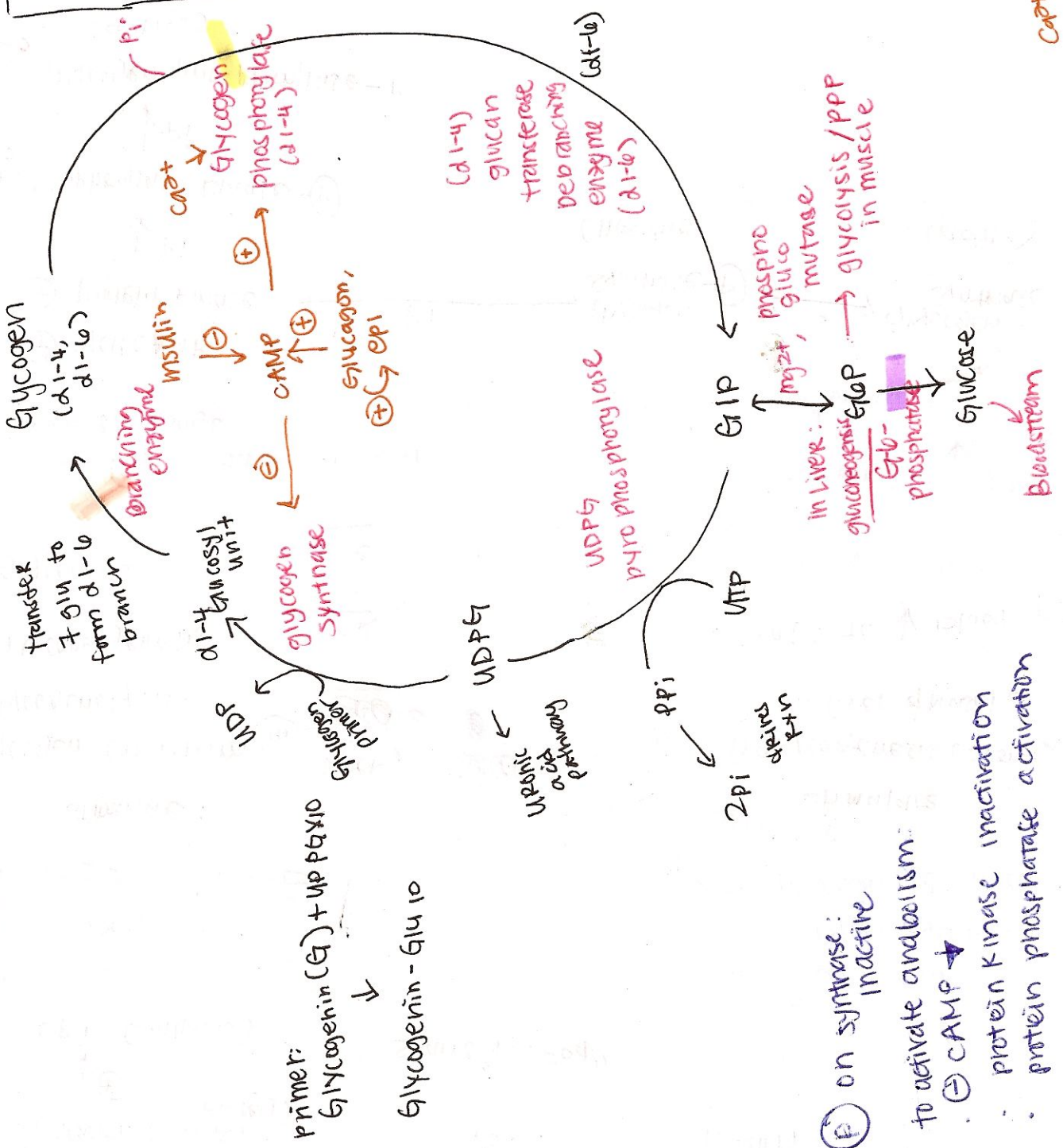


glycogenolysis (breakdown) / catabolism

glycogen synthesis / anabolism



glycogen storage disease

Von Gierke's:

- cannot make glucose
- hypoglycemia, ketosis
- increase storage, normal structure

Andersen's:

- very long outer chain
- cirrhosis of liver
- liver failure → death

McArdle's:

- ↑ amt, normal structure
- limited ability to perform strenuous exercise
- otherwise normal patient

(α1-4): α-glucan
glycosyl-
4:4 transferase: longer strand
glucosidase: hydrolyze remaining

glycogen phosphorylase:

activation of catabolism:

- ⊕ **CAMP** activate protein kinase
- Cap ⊕** → activate phosphorylase kinase-⊕
- activate glycogen phosphorylase
- ⊖ **Inhibit phosphate**